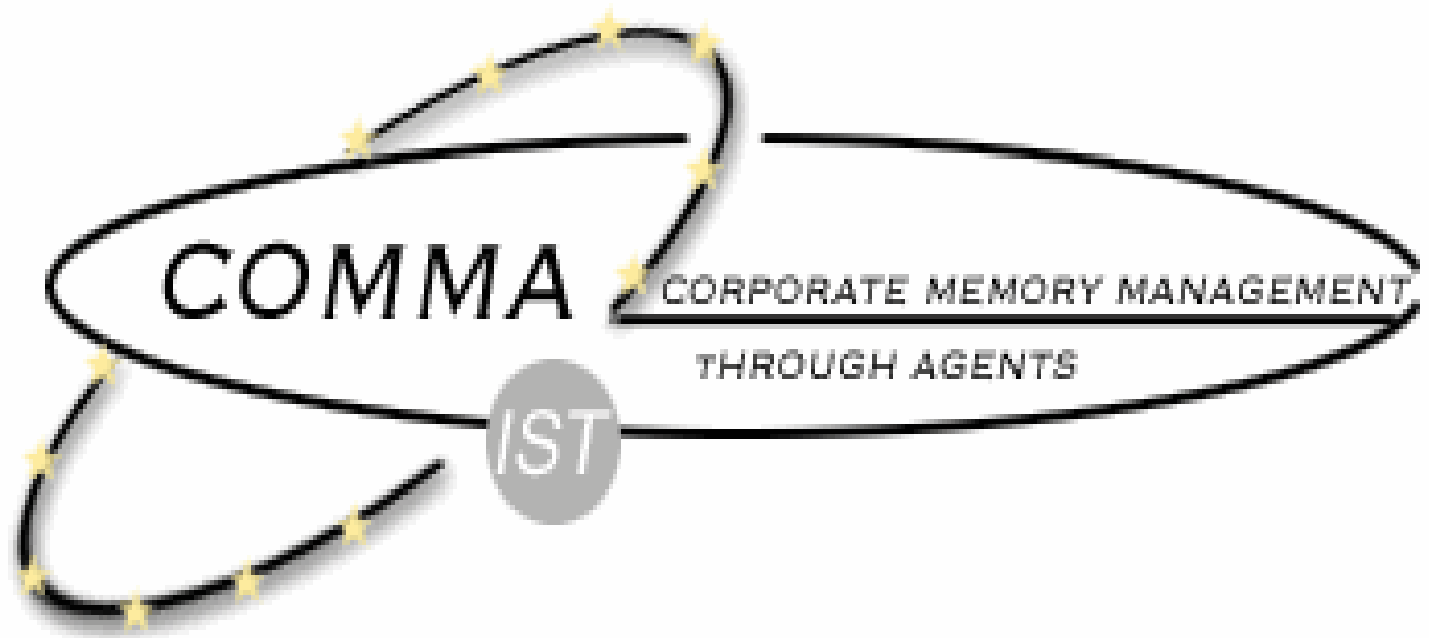


# *Ontologie pour un Système Multi-Agents dédié à une Mémoire d'Entreprise*



## ❖ Quoi ?

Projet IST - Communauté Européenne  
Environnement de gestion d'une mémoire organisationnelle.

### ▶ Mémoire organisationnelle:

Représentation persistante, explicite, désincarnée des connaissances et des informations dans une organisation, afin de faciliter leur accès, leur partage et leur réutilisation.

### ▶ Environnement de gestion:

Infrastructure logicielle permettant l'intégration cohérente et la capitalisation des connaissances distribuées dans l'organisation.

## ❖ Pourquoi ?

- ▶ Aide à l'insertion d'un nouvel employé
- ▶ Support de la veille technologique

## ❖ Qui ? & Où ?

- ▶ ATOS - Origin (France)
- ▶ CSELT - Telecom Italia (Italie) *quitte*
- ▶ CSTB (France) *arrive*
- ▶ Projet ACACIA - INRIA Sophia Antipolis
- ▶ LIRMM - Université de Montpellier
- ▶ T-Nova - Deutsch Telekom (Allemagne)
- ▶ Université de Parme (Italie)

## ❖ Quand ?

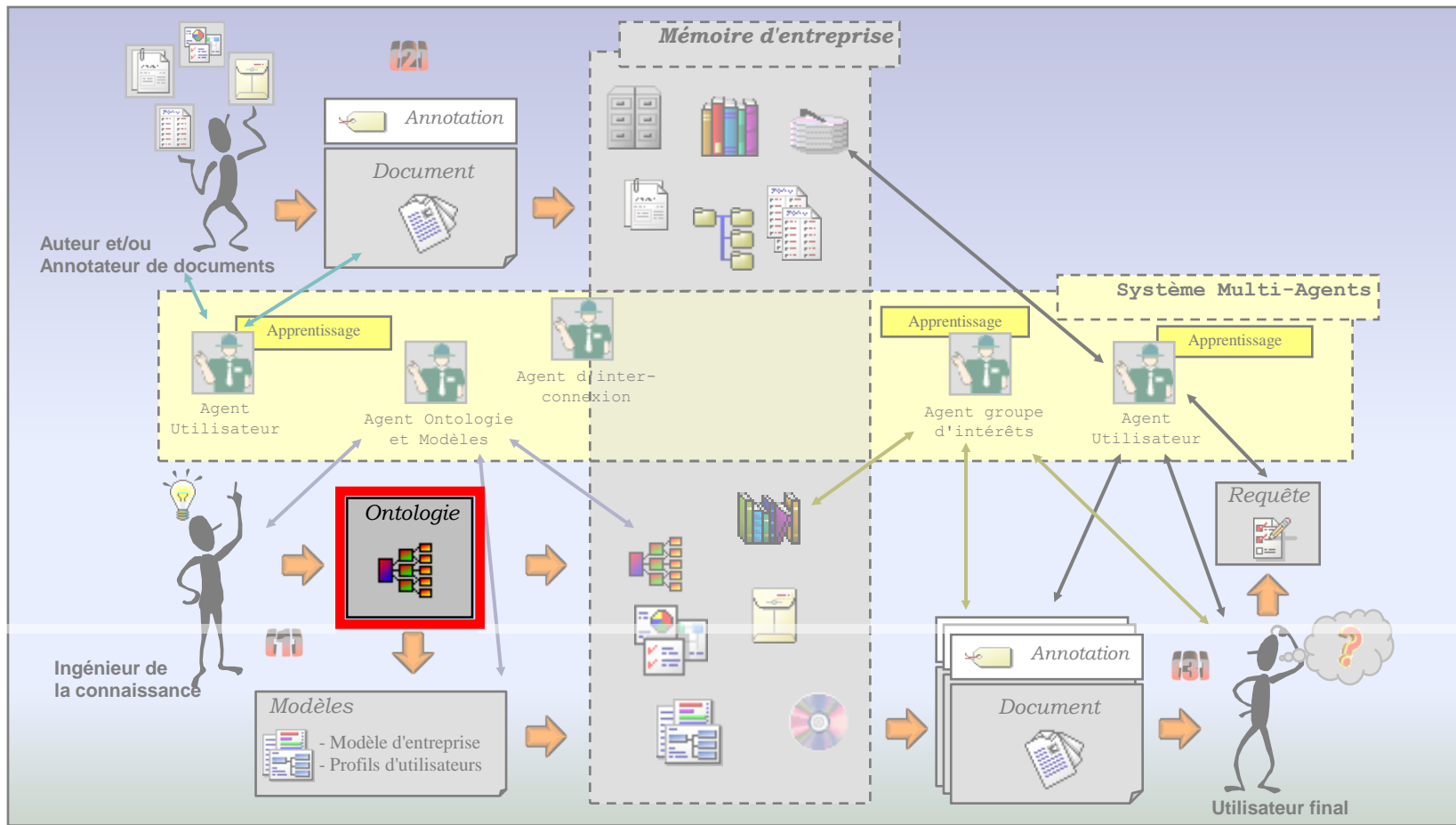
De Février 2000 à Février 2002

## ❖ Comment ?

Repartir des constats de départ

- ▶ Mémoire distribuée et hétérogène
- ▶ Gestion distribuée et hétérogène
- ▶ Population d'utilisateurs distribuée et hétérogène

<u>Matérialisation MO</u>	<u>Exploitation MO</u>
<b>XML:</b> Standard, Structure, Etendre, Valider, Transformer  <b>RDF:</b> Annotation, Schémas	<b>Système multiagents:</b> Modularité, Distribué, Collaboration  <b>Apprentissage :</b> Adaptation, Emergence
<b>Corporate Memory</b>	<b>Management through Agents</b>



- ❖ Collaboration → Capitalisation Globale
- ❖ Autonomie & Individualité → Adaptation Locale

## ❖ Contexte = Entreprise

- ▶ Porté limité & Existence communauté
- ▶ Ontologie & Engagement ontologique
- ▶ Modèles utilisateurs & Organisation
- ▶ Annotation de la mémoire

## ❖ RDF : Resource Description Framework

- ▶ Décrire les ressources du Web
- ▶ Annotation interne/externe de documents
- ▶ RDF Schema (pour formaliser l'ontologie)
- ▶ Syntaxe XML & Proche des modèles objet
- ▶ RDFS Limité - Etendre *ssi* nécessaire

## ❖ Vers un Web sémantique d'entreprise mémoire annotée, basée sur un modèle

- ❖ **O**ntologie en RDFS
- ❖ Description de la **S**ituation en RDF
  - ▶ Profil utilisateur
  - ▶ Modèle Organisation
- ❖ **A**nnotations en RDF description documents
- ❖ **I**nférences d'aide à l'exploitation (*en cours*)

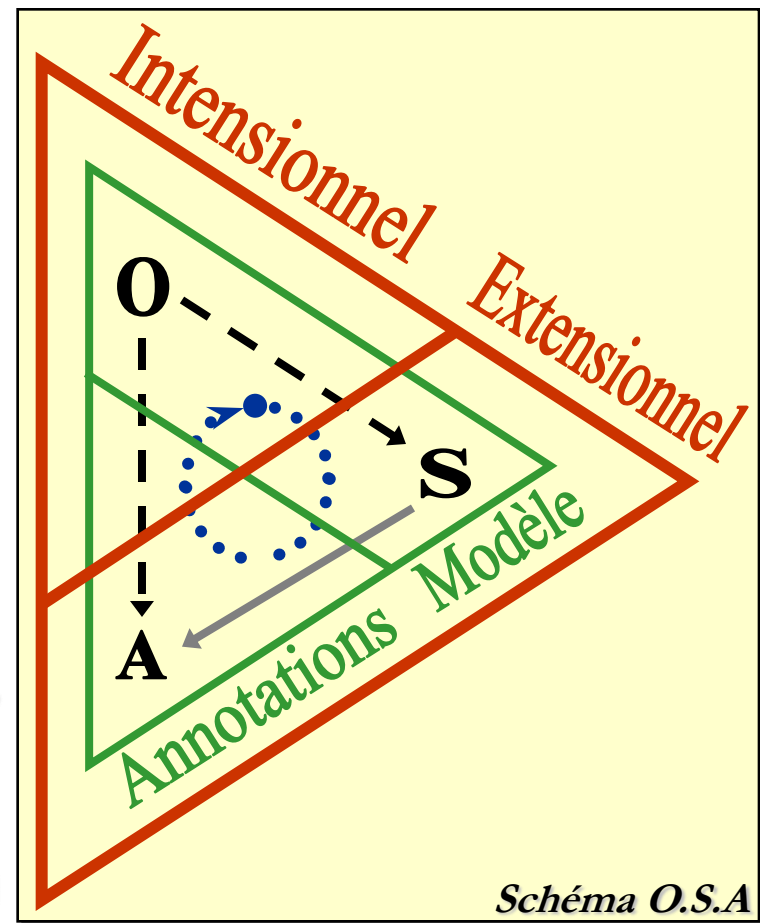


Schéma O.S.A

- ❖ Trois sources de besoin d'une ontologie
  - ▶ Communication entre agents
  - ▶ Annotations et modèles
  - ▶ Composant de la mémoire

**(a) Scénarios  
et Recueil**

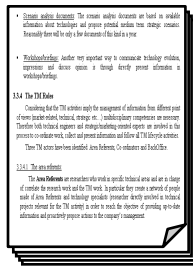
**(b) Du semi-informel  
au semi-formel**

**(c) RDF**

**(d) Navigation  
et Utilisation**



# (a) Scénarios et Recueil



## Scénarios

# (b) Du semi-informel au semi-formel

# (c) RDF

# (d) Navigation et Utilisation

## ❖ Analyse par scénarios textuels

### ❖ Avantages :

- ▶ Capture naturelle & informelle des besoins utilisateurs dans leur contexte.
- ▶ Vue d'ensemble d'un système comme un composant d'une solution possible pour gérer une mémoire d'une organisation.
- ▶ Se concentrer sur les aspects de gestion de connaissances spécifiques au projet.
- ▶ Séquences interactions concrètes (UCase)
- ▶ Moyen de vérification (//Comp. Questions)

Characteristics	Representation	Facets	
Goal	Textual Graphical	Actors	Profile
Scenario Before Scenario After	Informal Formal (UML)		Role Individual goal Task Action
Scope			Interaction
Scenario / Sub-Scenario		Resources	Nature Services Constraints
Generic / Specific Example, Illustration		Logical & Chronological	Processes Decomposition Sequential / Parallel / Non deterministic Loops & Stop conditions Alternatives & Switches Compulsory / Optional
Relevance life-time			
Exceptions Counter examples		Flows	Inputs Outputs Paths
		Functionalities & Rationale	Functionalities description Motivation, necessity Advantages & Disadvantages
		Environment	Internal Organisation Acquaintance External

- ❖ Aspects à considérer
- ❖ Utilisé dans le recueil
- ❖ Les utilisateurs finaux → Rapport

- **Scenario analysis documents:** The scenario analysis documents are based on available information about technologies and propose potential medium term strategic scenarios. Reasonably there will be only a few documents of this kind in a year.
- **Workshops/briefings** Another very important way to communicate technology evolution, impressions and discuss opinion is through directly present information in workshops/briefings.

### 3.3.4 The TM Roles

Considering that the TM activities imply the management of information from different point of views (market-related, technical, strategic etc...) multidisciplinary competencies are necessary. Therefore both technical engineers and strategic/marketing-oriented experts are involved in this process to co-ordinate work, collect and present information and follow all TM lifecycle activities.

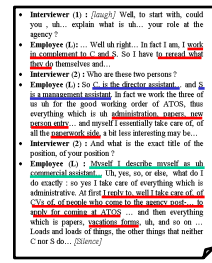
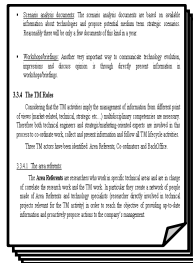
Three TM actors have been identified: Area Referents, Co-ordinators and BackOffice.

#### 3.3.4.1 The area referents:

The **Area Referents** are researchers who work in specific technical areas and are in charge of correlate the research work and the TM work. In particular they create a network of people made of Area Referents and technology specialists (researcher directly involved in technical projects relevant for the TM activity) in order to reach the objective of providing up-to-date information and proactively propose actions to the company's management.

*Document      Événement      Rôle      Fonction      ...*

# (a) Scénarios et Recueil



Scénarios

Entretiens

## (b) Du semi-informel au semi-formel

## (c) RDF

## (d) Navigation et Utilisation

- ❖ Guide et conseils pour l'entretien
- ❖ Semi-structuré (individuel / groupe)

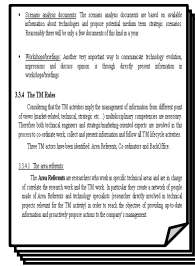
- **Interviewer (1)** : *[laugh]* Well, to start with, could you , uh... explain what is uh... your role at the agency ?
- **Employee (L)**: ... Well uh right... In fact I am, I work in complement to C and S. So I have to reread what they do themselves and...
- **Interviewer (2)** : Who are these two persons ?
- **Employee (L)** : So C, is the director assistant... and S, is a management assistant. In fact we work the three of us uh for the good working order of ATOS, thus everything which is uh administration, papers, new person entry... and myself I essentially take care of, of all the paperwork side, a bit less interesting may be...
- **Interviewer (2)** : And what is the exact title of the position, of your position ?
- **Employee (L)** : Myself I describe myself as uh commercial assistant... Uh, yes, so, or else, what do I do exactly : so yes I take care of everything which is administrative. At first I reply to, well I take care of, of CVs of, of people who come to the agency post-... to apply for coming at ATOS ... and then everything which is papers, vacations forms, uh, and so on ... Loads and loads of things, the other things that neither C nor S do... *[Silence]*

Définition du rôle (≠<sup>ntes</sup> tâches)

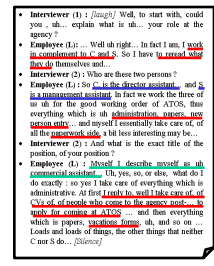
Réseau de connaissances

Position :  
Définition personnelle  
≠ définition officielle

# (a) Scénarios et Recueil



Scénarios



Entretiens



Observations

## (b) Du semi-informel au semi-formel

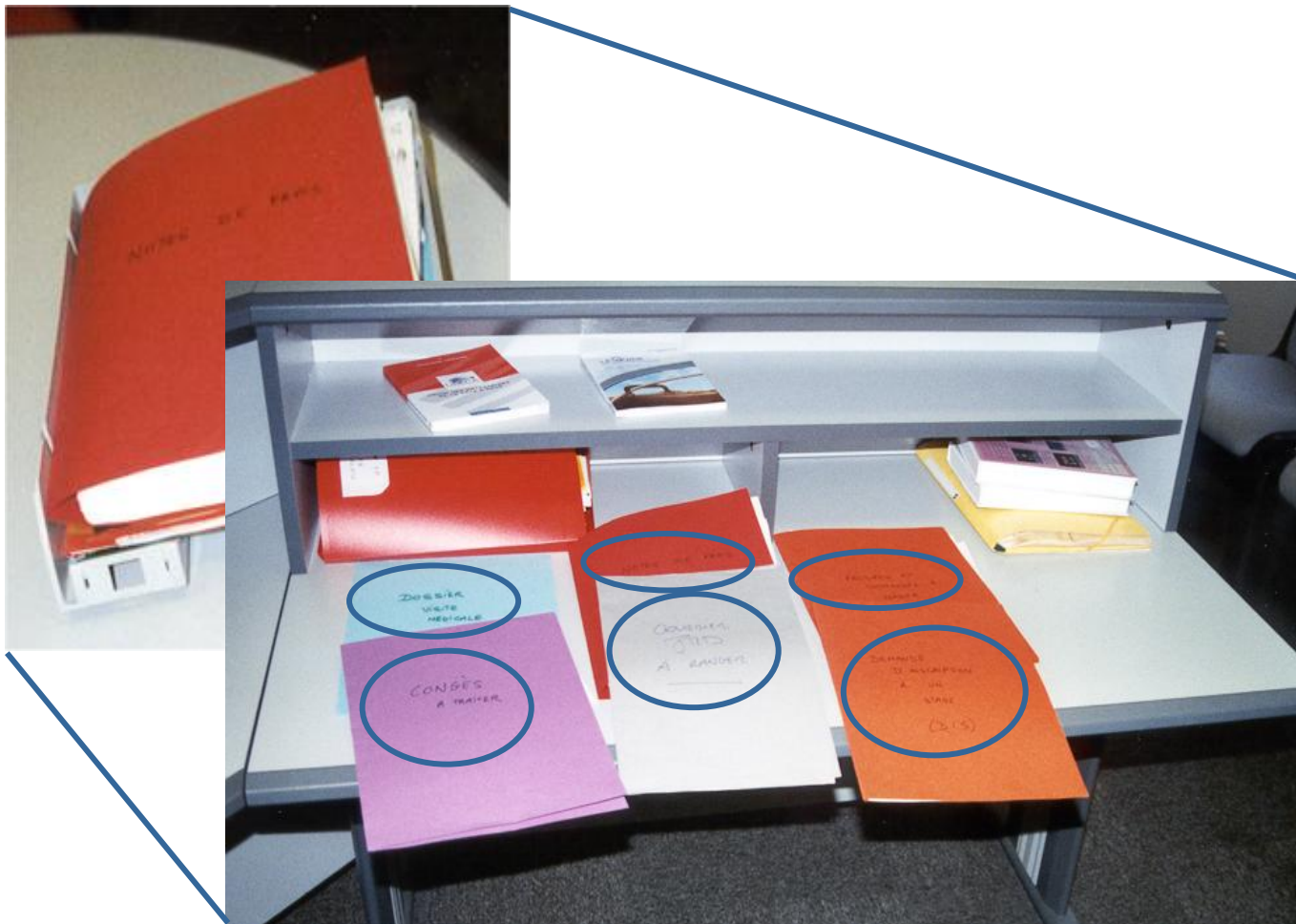
## (c) RDF

## (d) Navigation et Utilisation

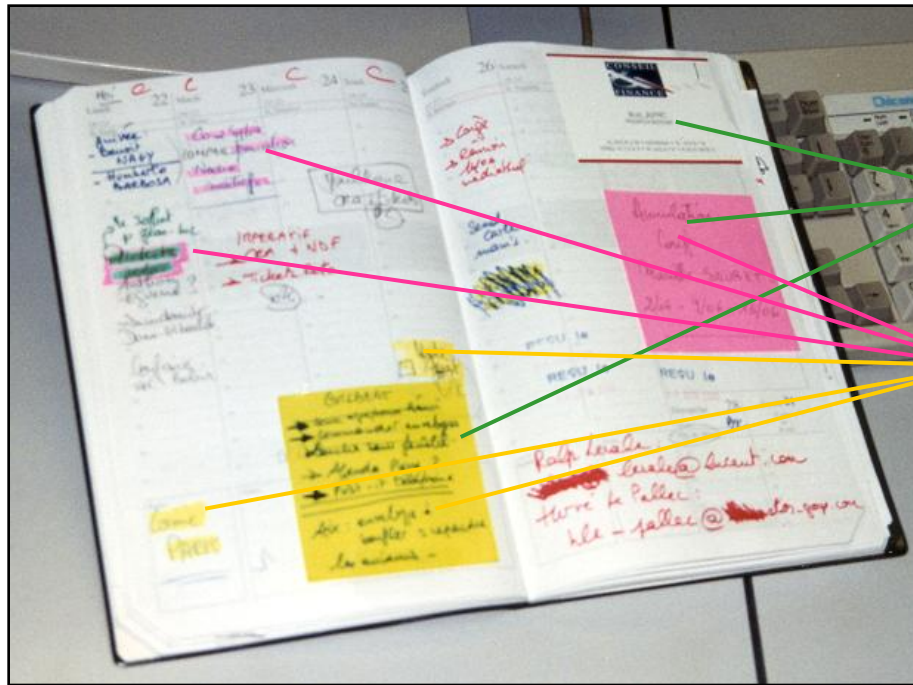


- ❖ Nouvelle employée
- ❖ Entretien
- ❖ Observations



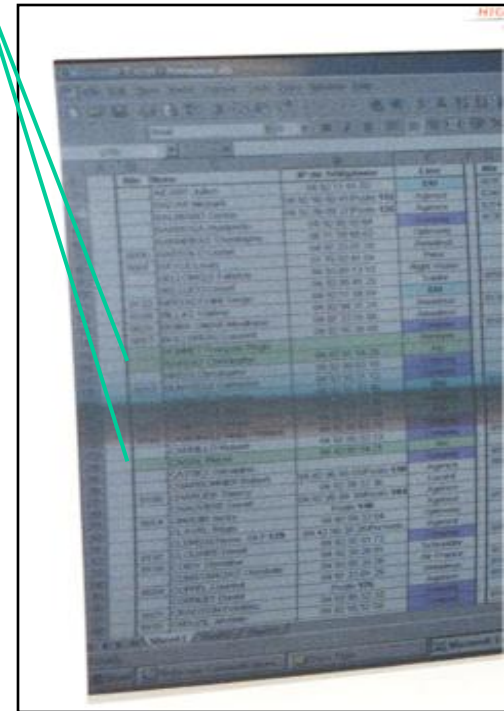


- ❖ Indexation, Rangement
- ❖ Catégories / Classes de documents



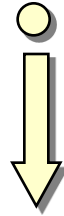
Insertions

Code couleurs



- ❖ Interfaces & Représentation
- ❖ Types d'annotations

# (a) Scénarios et Recueil



(b) Du semi-informel au semi-formel

(c) RDF

(d) Navigation et Utilisation

3.1.1. The scenarios

3.1.2. The scenarios

3.1.3. The scenarios

Interviewer (1): ... Well, to start with, could you ... explain what is ... your role at the agency?

Employee (E1): ... Well it's right ... In fact I am, I work as a ...

Interviewer (2): Who are these two persons?

Employee (E1): ... So, it is the ... and ...

Interviewer (2): And what is the exact title of the position, of your position?

Employee (E1): ... I describe myself as an ...



Documents		Documents	
Doc ID	Doc Title	Doc ID	Doc Title
DOC001	Document 1	DOC002	Document 2
DOC003	Document 3	DOC004	Document 4
DOC005	Document 5	DOC006	Document 6
DOC007	Document 7	DOC008	Document 8
DOC009	Document 9	DOC010	Document 10
DOC011	Document 11	DOC012	Document 12
DOC013	Document 13	DOC014	Document 14
DOC015	Document 15	DOC016	Document 16
DOC017	Document 17	DOC018	Document 18
DOC019	Document 19	DOC020	Document 20
DOC021	Document 21	DOC022	Document 22
DOC023	Document 23	DOC024	Document 24
DOC025	Document 25	DOC026	Document 26
DOC027	Document 27	DOC028	Document 28
DOC029	Document 29	DOC030	Document 30
DOC031	Document 31	DOC032	Document 32
DOC033	Document 33	DOC034	Document 34
DOC035	Document 35	DOC036	Document 36
DOC037	Document 37	DOC038	Document 38
DOC039	Document 39	DOC040	Document 40
DOC041	Document 41	DOC042	Document 42
DOC043	Document 43	DOC044	Document 44
DOC045	Document 45	DOC046	Document 46
DOC047	Document 47	DOC048	Document 48
DOC049	Document 49	DOC050	Document 50

Scénarios

Entretiens

Observations

Documents

Name, Vorname: Dr. Müller, Heinz  
Jürgen

Einstellungsdatum: 01.05.98

DSt: TZ FE14k

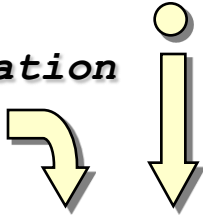
PSZ-4 ✓	Angestellte, Gehaltskonten, Vermögensw. Leistungen	Herr Kottke	54/425	Tel.: 3780
PSZ-8 ✓	Umzugskosten, Trennungsgeld, Reisekosten, Kindergeld, Kindertagesstätte	Frau Deml	54/529	Tel.: 2724
PSZ-3a ✓	Personalbuchführung	Herr Graf	54/418	Tel.: 2718
PSZ-3b ✓	Urlaub	Thomas Mohr	54/418	Tel.: 2719
PSZ-1 PSZ-2	Personaleinsatz	Herr Schröter Frau Hierer	54/420 54/418	Tel.: 2711 Tel.: 2716
PSZ-5a ✓	Arbeitszeitregelung	Frau Maul-Gottaut	54/340	Tel.: 5954
PSZ-10	Wohnungsfürsorge	Herr Halfen	54/511	Tel.: 2733
PSZ-9a ✓	Krankenkasse, Post-, Spar- und Darlehensverein	Frau Polzer <i>M. Polzer</i>	54/510	Tel.: 8252
PSZ-6b ✓	Unternehmensausweis	Frau Weingart	54/438	Tel.: 1238
P183DA-1a	Vorübergehende Unterbringung BZ/FH Dieburg	Frau Möller	36/251	Tel.: 8291. ✓
PSZ-9b	Sozialbetreuung	Frau Loos	54/531	Tel.: 2728
P183-DA-11b ✓	Parkeraubnis	Herr Scior	34/123	Tel.: 6623
P184DA-2	Brandschutz	Herr Harsch	36/227	Tel.: 6820
P184DA-1	Arbeitsschutz	Herr Anders	36/226	Tel.: 7697
PSZ-4	Sonstige Fragen zu Tarifangelegenheiten	Herr Kottke	54/425	Tel.: 3780

01.05.98

- ❖ Que faire
- ❖ Où aller
- ❖ Qui voir
- ❖ Moyen de contacter
- ❖ Dans quel ordre
  
- ❖ Exemple problème
- ❖ Nécessité coopération

# (a) Scénarios et Recueil

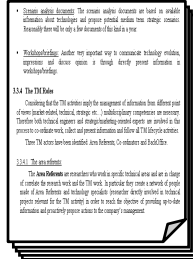
Réutilisation  
& autres



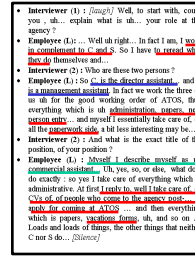
(b) Du semi-informel  
au semi-formel

(c) RDF

(d) Navigation  
et Utilisation



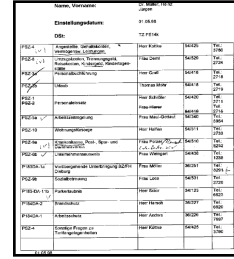
Scénarios



Entretiens



Observations



Documents

## ❖ **Etat de l'art et réutilisation:**

- ▶ Enterprise Ontology (AIAI)
- ▶ TOVE Ontology
- ▶ Cyc Ontology
- ▶ Ontologie PME
- ▶ CGKAT & WebKB top ontology
- ▶ **Pas d'inclusion automatique**

## ❖ **Autres sources:**

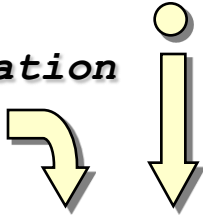
- ▶ Expertise en sémiotique (pas dans recueil)  
“Using Language” H.H. Clark
- ▶ MIME: énumération formats électroniques
- ▶ Dublin Core: Init. propriétés documents

## ❖ **Scénarios pour l'élagage** (r. propriétaire)

## ❖ **Méta-dictionnaires**

(a) Scénarios et Recueil

Réutilisation & autres



(b) Du semi-informel au semi-formel

(c) RDF

(d) Navigation et Utilisation

13.01: The scenarios  
The scenarios are the first step in the process of formalizing a system. They are a collection of statements that describe the system's behavior. They are used to communicate the system's requirements to the developers.

Interviewer (1): ... Well, to start with, could you ... explain what is ... your role at the agency?  
Employee (1): ... Well it's right ... In fact I am, I work as a ...  
Interviewer (2): Who are these two persons?  
Employee (1): ... So ... in the ...  
Interviewer (2): And what is the exact title of the position, of your position?  
Employee (1): ... I describe myself as an ...  
Interviewer (2): ... Well, I take care of ...  
Employee (1): ... I take care of ...  
Interviewer (2): ... Well, I take care of ...  
Employee (1): ... I take care of ...



Document	Author	Date	Version
Document 1	Author 1	Date 1	Version 1
Document 2	Author 2	Date 2	Version 2
Document 3	Author 3	Date 3	Version 3
Document 4	Author 4	Date 4	Version 4
Document 5	Author 5	Date 5	Version 5
Document 6	Author 6	Date 6	Version 6
Document 7	Author 7	Date 7	Version 7
Document 8	Author 8	Date 8	Version 8
Document 9	Author 9	Date 9	Version 9
Document 10	Author 10	Date 10	Version 10

Scénarios

Entretiens

Observations

Documents

Relation	Domain	Range	View	Super Relation	Other Terms	Natural Language Definition	Sy	Tr	Re	Pr
Manage	Organizational Entity;	Organizational Entity;	Organization	Relation	;	Relation denoting that an Organizational Entity		Tr		EO
Attribute	Domain	Range Type	View	Super Relation	Other Terms	Natural Language Definition				Pr
Designation	Thing	Class	View	Super class	Other Terms	Natural Language Definition				Pr
Family Name	Person	Thing	Top-Level;	;	;	Whatever exists animate, inanimate or abstraction.				Us
Mobile Number	Person	Event	Top-Level; Event;	Thing;	;	Thing taking place, happening, occurring; usually recognized as important, significant or unusual				Us
Title	Document	Gathering	Event;	Event;	;	Event corresponding to the social act of a group of Persons assembling in one place				Us

## ❖ Termes candidats

- ▶ Proposition définitions (ac.)
- ▶ Proposition extensions (in.)
- ▶ Amorçage & itération

## ❖ Raffinage termes et notions

- ▶ Travail sur termes: synonymes/ambigus  
Label formel (Uschold & Gruninger 96)
- ▶ Nécessité outils & niveau terminologiques  
pour consensus et interface

## ❖ Trois approches identifiées

- ▶ Top-Down / Bottom-Up / Middle-Out
- ▶ Trois perspectives complémentaires
- ▶ niveau/granularité & interactions



## ❖ **Structuration:**

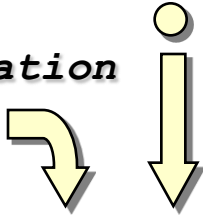
- ▶ Principes aristotéliens étendus (Bachimont, 2000)
- ▶ Genus/Differentia/Axe sémantique (Kassel et al, 2000)
- ▶ Attributs et contraintes pour subsomption (Guarino et Welty, 2000)
- ▶ Très bien pour le top / lourd sans les outils pour une large ontologie

## ❖ **Continuum Informel → Formel**

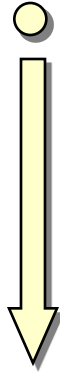
- ▶ Textuel (Informel)
- ▶ Tableaux (semi-informel → semi-formel)
- ▶ RDF-RDFS (formel, utilisation taxinomie)
- ▶ Processus d'augmentation (termes & LN)

# (a) Scénarios et Recueil

Réutilisation & autres



# (b) Du semi-informel au semi-formel



# (c) RDF

# (d) Navigation et Utilisation

134.1 The TD roles  
 134.2 The TD roles  
 134.3 The TD roles

Interviewer (1): ...  
 Employee (1.1): ...  
 Interviewer (2): ...  
 Employee (2.1): ...  
 Interviewer (3): ...



Document	Author	Date	Version
Document 1	John Doe	2023-10-26	1.0
Document 2	Jane Smith	2023-10-27	1.0
Document 3	John Doe	2023-10-28	1.0
Document 4	Jane Smith	2023-10-29	1.0
Document 5	John Doe	2023-10-30	1.0
Document 6	Jane Smith	2023-10-31	1.0
Document 7	John Doe	2023-11-01	1.0
Document 8	Jane Smith	2023-11-02	1.0
Document 9	John Doe	2023-11-03	1.0
Document 10	Jane Smith	2023-11-04	1.0

Scénarios

Entretiens

Observations

Documents

Relation	Domain	Range	View	Super Relation	Other Terms	Natural Language Definition	Sy	Tr	Re	Pr
Manage	Organizational Entity;	Organizational Entity;	Organization	Relation	;	Relation denoting that an Organizational Entity		Tr		EO
Attribute	Domain	Range Type	View	Super Relation	Other Terms	Natural Language Definition				Pr
Designation	Thing	Class	View	Super class	Other Terms	Natural Language Definition				Pr
Family Name	Person	Thing	Top-Level;	;	;	Whatever exists animate, inanimate or abstraction.				Us
Mobile Number	Person	Event	Top-Level; Event;	Thing;	;	Thing taking place, happening, occurring; usually recognized as important, significant or unusual				Us
Title	Document	Gathering	Event;	Event;	;	Event corresponding to the social act of a group of Persons assembling in one place				Us

```

<rdf:Class rdf:ID="Something">
  <rdf:comment xml:lang="en">Whatever exists animate, inanimate or abstraction. </rdf:comment>
</rdf:Class>

<rdf:Class rdf:ID="Entity">
  <rdf:subClassOf rdf:resource="#Something"/>
  <rdf:comment xml:lang="en">Thing which exists apart from other Things, having its own independent existence and that can be involved in Events. </rdf:comment>
</rdf:Class>

<rdf:subClassOf rdf:resource="#Something">
  <rdf:comment xml:lang="en">Thing which exists apart from other Things, having its own independent existence and that can be involved in Events. </rdf:comment>
  <rdf:label xml:lang="en">Something </rdf:label>
</rdf:subClassOf>

<rdf:Class rdf:ID="Dictionary">
  <rdf:subClassOf rdf:resource="#ReferenceDocument"/>
  <rdf:comment xml:lang="en">Reference Document in which words are listed alphabetically and their meanings </rdf:comment>
  <rdf:label xml:lang="en">Dictionary </rdf:label>
</rdf:Class>
  
```

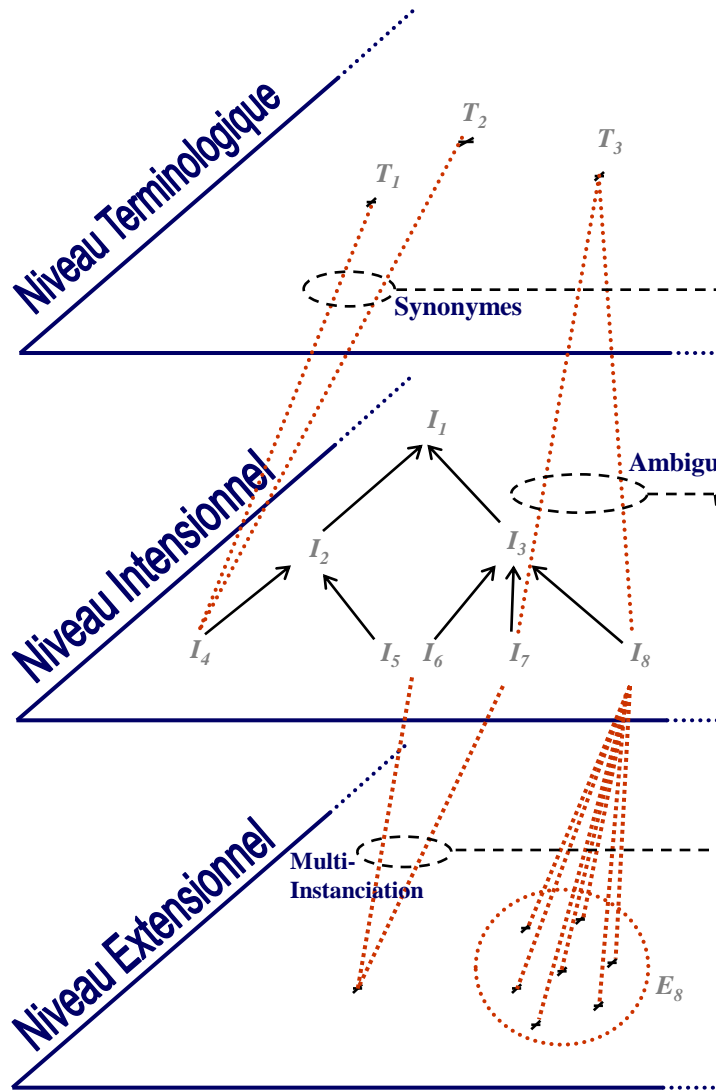
## ❖ Trois Couches:

- ▶ Plus de 400 concepts, 50 relations, profondeur maximale de 12 hops.
- ▶ Haut: réutilisable/peu utilisable
- ▶ Couche centrale:
  - Mémoire d'entreprise (r. mémoire)
  - Sujets du domaine (r. domaine)
- ▶ Extensions: utilisables/peu réutilisables

## ❖ Nécessité extension (définitions formelles concepts / propriétés)

## ❖ Nécessité interface:

- ▶ Cacher haut: peu intérêt & pb consensus niveau bas = consensus de tous les jours
- ▶ Profils et terminologie dans la navigation
- ▶ Terminologie & Plusieurs langues/jargons



```
<rdfs:Class rdf:ID="Department">
  <rdfs:subClassOf rdf:resource="#OrganizationPart"/>
  <rdfs:comment xml:lang="en">
    Organization part which is a sub division of of a
    Research Direction, corresponding to sub interest
    field e.g mobile transmission
  </rdfs:comment>
  <rdfs:label xml:lang="en">department</rdfs:label>
  <rdfs:label xml:lang="en">division</rdfs:label>
</rdfs:Class>
```

```
<rdfs:Class rdf:ID="E-Mail">
  <rdfs:subClassOf rdf:resource="#Mail"/>
  <rdfs:comment xml:lang="en">
    Mail sent in electronic format over a computerized
    world-wide communication system
  </rdfs:comment>
  <rdfs:label xml:lang="en">e-mail</rdfs:label>
  <rdfs:label xml:lang="en">electronic mail</rdfs:label>
  <rdfs:label xml:lang="en">mail</rdfs:label>
</rdfs:Class>
```

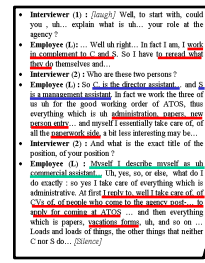
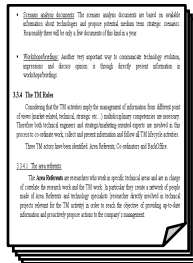
```
<rdfs:Class rdf:ID="PostMail">
  <rdfs:subClassOf rdf:resource="#Mail"/>
  <rdfs:comment xml:lang="en">
    Mail transmitted via the post office
  </rdfs:comment>
  <rdfs:label xml:lang="en">post mail</rdfs:label>
  <rdfs:label xml:lang="en">mail</rdfs:label>
</rdfs:Class>
```

```
.....
<CoMMA:Memo rdf:about="http://www.inria.fr/comma.rtf"/>
<CoMMA:E-Mail rdf:about="http://www.inria.fr/comma.rtf"/>
```

$T_n$ : A term -  $I_n$ : Intension of Concept #n -  $E_n$ : Extension of Concept #n

# (a) Scénarios et Recueil

Réutilisation & autres



Document	Author	Date	Version
PR2004-01	...	...	...
PR2004-02	...	...	...
PR2004-03	...	...	...
PR2004-04	...	...	...
PR2004-05	...	...	...
PR2004-06	...	...	...
PR2004-07	...	...	...
PR2004-08	...	...	...
PR2004-09	...	...	...
PR2004-10	...	...	...
PR2004-11	...	...	...
PR2004-12	...	...	...
PR2004-13	...	...	...
PR2004-14	...	...	...
PR2004-15	...	...	...
PR2004-16	...	...	...
PR2004-17	...	...	...
PR2004-18	...	...	...
PR2004-19	...	...	...
PR2004-20	...	...	...
PR2004-21	...	...	...
PR2004-22	...	...	...
PR2004-23	...	...	...
PR2004-24	...	...	...
PR2004-25	...	...	...
PR2004-26	...	...	...
PR2004-27	...	...	...
PR2004-28	...	...	...
PR2004-29	...	...	...
PR2004-30	...	...	...

Scénarios

Entretiens

Observations

Documents

# (b) Du semi-informel au semi-formel

Relation	Domain	Range	View	Super Relation	Other Terms	Natural Language Definition	Sy	Tr	Re	Pr
Manage	Organizational Entity;	Organizational Entity;	Organization	Relation	;	Relation denoting that an Organizational Entity		Tr		EO
Attribute	Domain	Range Type	View	Super Relation	Other Terms	Natural Language Definition	Pr			
Designation	Thing	Class	View	Super class	Other Terms	Natural Language Definition	Pr			
Family Name	Person	Thing	Top-Level;	;	;	Whatever exists animate, inanimate or abstraction.	Us			
Mobile Number	Person	Event	Top-Level; Event;	Thing;	;	Thing taking place, happening, occurring; usually recognized as important, significant or unusual	Us			
Title	Document	Gathering	Event;	Event;	;	Event corresponding to the social act of a group of Persons assembling in one place	Us			

# (c) RDF

```

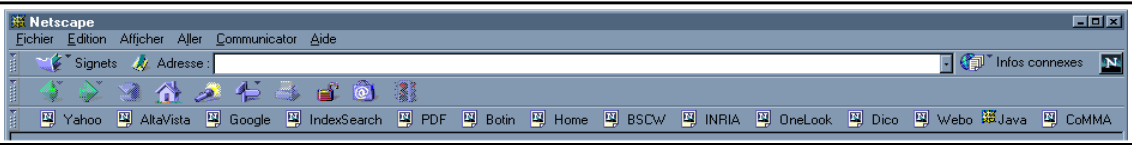
<rdf:Class rdf:ID="Something">
  <rdf:comment xml:lang="en">Whatever exists animate, inanimate or abstraction. </rdf:comment>
</rdf:Class>

<rdf:Class rdf:ID="Entity">
  <rdf:subClassOf rdf:resource="#Something"/>
  <rdf:comment xml:lang="en">Thing which exists apart from other Things, having its own independent existence and that can be involved in Events. </rdf:comment>
</rdf:Class>

<rdf:subClassOf rdf:resource="#Something">
  <rdf:comment xml:lang="en">Thing which exists apart from other Things, having its own independent existence and that can be involved in Events. </rdf:comment>
  <rdf:label xml:lang="en">Something </rdf:label>
</rdf:subClassOf>

<rdf:Class rdf:ID="Dictionary">
  <rdf:subClassOf rdf:resource="#ReferenceDocument"/>
  <rdf:comment xml:lang="en">Reference Document in which words are listed alphabetically and their meanings </rdf:comment>
  </rdf:Class>
  
```

# (d) Navigation et Utilisation






# ❖ Entrer dans l'ontologie par la terminologie

## Searching for a concept :

Look for terms  :






## Possible Matches :

---

The search was done in the terminology ()  
Click on the  to get to see the corresponding concept.  
Click on the  to get to see the corresponding relation.

---

Number of matches for the term "**personne**": 5

-  [a pour centre d interet personnel](#) : a pour centre d interet personnel,
  -  [registre du personnel](#) : registre du personnel,
  -  [PDA](#) : PDA, P.D.A., assistants electroniques personnels,
  -  [personne](#) : personne, humain, etre humain,
  -  [page personnelle](#) : page personnelle, site personnel,
-

# ❖ Sélectionner un concept (en français)

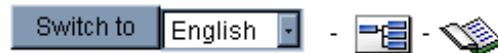
**personne** : personne, humain, etre humain,

---

Inherits from : [@chose](#) [@entite](#) [@entite de role](#) [@entite dirigeable](#)

---

Class ID : Person - [See Intances](#) - [See available relations on that concept](#)



---

## Natural Language definition :

Entite vivante appartenant a l humanite, un etre humain individuel.

---

## More general notion : (8)

- © [entite dirigeable](#) : [entite dirigeable](#),
  - © [entite capable d administrer](#) : [entite capable d administrer](#),
  - © [entite capable d activite](#) : [entite capable d activite](#),
  - © [etre vivant](#) : [etre vivant](#), [entite vivante](#),
  - © [entite capable d etre interessee](#) : [entite capable d etre interessee](#),
  - © [entite localisable](#) : [entite localisable](#),
  - © [entite groupable](#) : [entite groupable](#),
  - © [entite de rassemblement](#) : [entite de rassemblement](#),
- 

## More precise notions : (3)

- © [acteur de la veille technologique](#) : [acteur de la veille technologique](#),
- © [etudiant](#) : [etudiant](#),
- © [professionnel](#) : [professionnel](#),

# ❖ Sélectionner un concept (en anglais)



**person** : person, human, human being,

---

Inherits from : [©thing](#) [©entity](#) [©role entity](#) [©manageable entity](#)

---

**Class ID** : Person - [See Intances](#) - [See available relations on that concept](#)

Switch to  -  - 

---

## Natural Language definition :

Living Entity belonging to mankind, an individual human being.

---

## More general notion : (8)

- © [manageable entity](#) : [manageable entity](#),
  - © [administration able entity](#) : [administration able entity](#),
  - © [activity able entity](#) : [activity able entity](#),
  - © [living being](#) : [living being](#), [living entity](#),
  - © [interest able entity](#) : [interest able entity](#),
  - © [situable entity](#) : [situable entity](#),
  - © [groupable entity](#) : [groupable entity](#),
  - © [gathering entity](#) : [gathering entity](#),
- 

## More precise notions : (3)

- © [professional](#) : [professional](#),
- © [student](#) : [student](#),
- © [technical monitoring actor](#) : [technical monitoring actor](#),



# ❖ Sélectionner une relation



**prenom** : prenom,

---

Inherits from : designation

---

**Relation ID** : FirstName - See Instances -

Switch to English -  - 

---

[ © **personne** : personne, humain, etre humain, ]--( prenom,)--[ Text ]

---

**Natural Language definition** :

Le nom qui se produit et s'utilise le plus familièrement avec une personne.

---



**More general relation** : (1)

designation : designation,

---

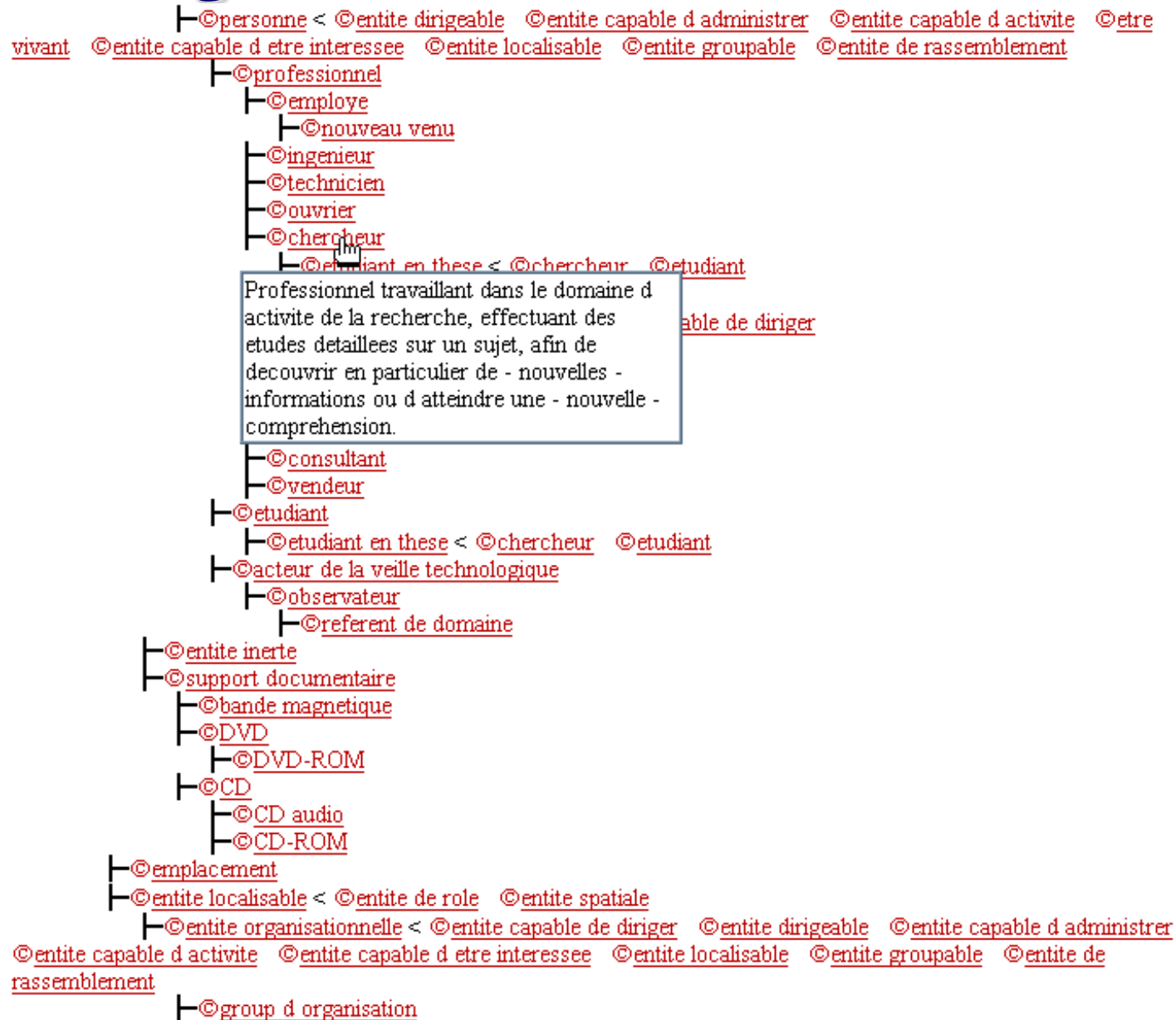
**More precise relations** :

---

New search on terms  :  in English

---

# ❖ Naviguer dans la taxonomie



## ❖ Voir la terminologie

		des photographies. On le destine habituellement a une publication hebdomadaire ou mensuelle sous la forme d un livret broche.
<u>mail</u>	© <u>mel</u>	Courrier envoye au format electronique a travers un systeme mondial de transmission automatisee.
<u>male</u>	© <u>masculin</u>	Personne qui appartient au sexe qui ne peut pas donner naissance.
<u>manuel</u>	© <u>manuel</u>	Document de reference qui vous donne des instructions pratiques sur la facon de faire quelque chose ou la facon d utiliser quelque chose, telle qu une machine.
<u>manuel de l employe</u>	© <u>manuel de l employe</u>	Manuel qui explique officiellement les politiques, les procedures, et des avantages de la compagnie.
<u>marketing</u>	© <u>marketing</u>	Service par lequel un produit ou un service est vendu, comprenant en particulier l evaluation de son potentiel de vente et la responsabilite de sa promotion et sa distribution.
<u>masculin</u>	© <u>masculin</u>	Personne qui appartient au sexe qui ne peut pas donner naissance.
<u>materiaux de construction</u>	© <u>materiaux de construction</u>	25
<u>mathematiques</u>	© <u>mathematiques</u>	Sujet concerne par l etude des nombres, des formes et de l espace en utilisant le raisonnement et habituellement un systeme special de symboles et de regles pour les organiser.
<u>mauvais</u>	© <u>mauvais</u>	Valeur correspondant a un mauvais avis / retour donne au sujet d une consultation.
<u>mecanique</u>	© <u>mecanique</u>	Etude de l effet des forces physiques sur les objets et leur mouvement.
<u>mecanique liquide</u>	© <u>mecanique liquide</u>	
<u>mechanique des sols</u>	© <u>mechanique des sols</u>	17
<u>mel</u>	© <u>mel</u>	Courrier envoye au format electronique a travers un systeme mondial de transmission automatisee.
<u>memo</u>	© <u>memo</u>	Document correspondant a un message ou a toute

# ❖ Document le résultat d'une requête

---

© **project group** <http://www-sop.inria.fr/acacia/>

☒ **is interested by:**

© **knowledge engineering**

☒ **designation:** Projet Acquisition des Connaissances pour l'Assistance à la Conception par Interaction entre Agents

---

© **project group** <http://www-sop.inria.fr/acacia/>

☒ **is interested by:**

© **HCI**

☒ **designation:** Projet Acquisition des Connaissances pour l'Assistance à la Conception par Interaction entre Agents

---

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☒ **is interested by:**

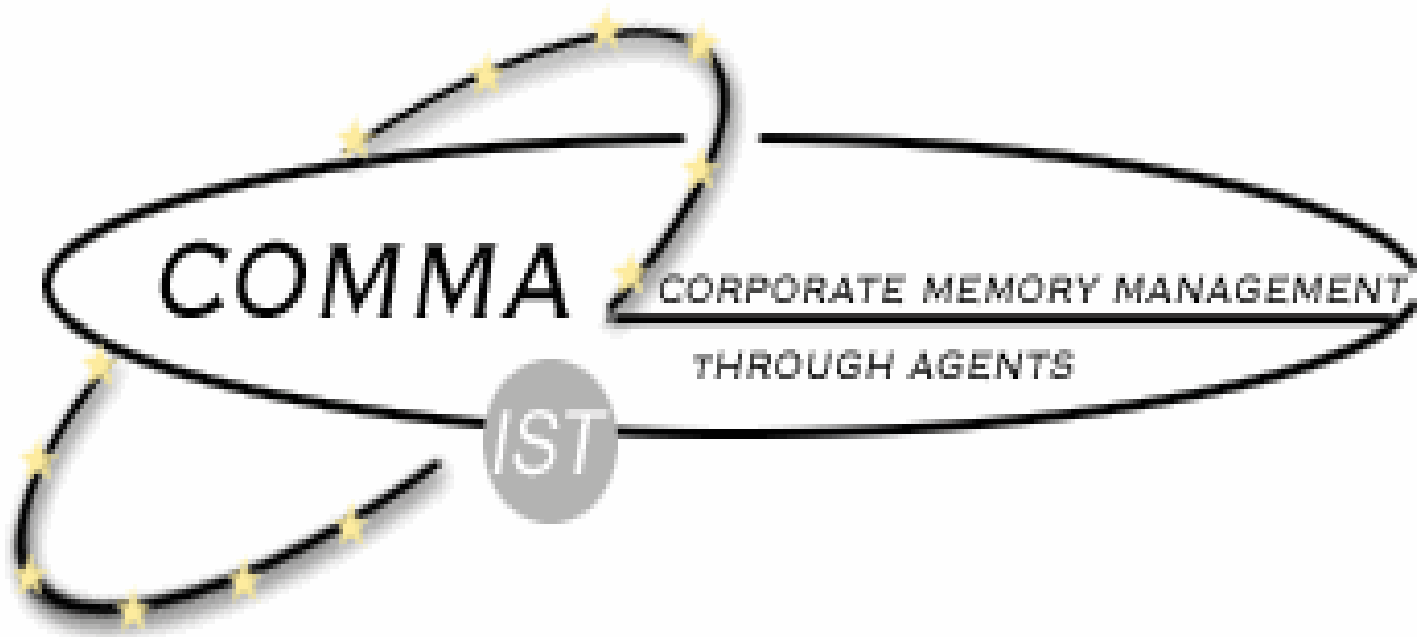
© **Web**

☒ **d** Internet servers networks that support **ances pour l'Assistance à la Conception par Interaction**  
entr specially formatted documents.

---

© **project group** <http://www-sop.inria.fr/ariana/>

☒ **is interested by:**



- ❖ En cours (du point de vue ontologie)...
  - ▶ Interfaces de requêtes  
(niveau terminologique ↔ intensionnel)
  - ▶ Extension RDF (définitions formelles)
  - ▶ Inférences et classification